

Reply to Office Action dated May 11, 2006

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A stereoscopic image display apparatus for displaying different parallax images on a viewing region, comprising:

a display device having an array of display pixels arranged in columns and rows for displaying the parallax images by different pixels a plurality of parallax images wherein each parallax image comprises an array of image pixels having a plurality of pixel states and being arranged in columns and rows, image pixels of the same column and row location in each parallax image array being grouped to form pixel groups on the display device, each pixel group being defined by a plurality of rows corresponding to the number of image pixel states and a plurality of columns corresponding to the number of parallax images, each image pixel being divided into the number of image pixel states, and the image pixels in each image pixel group being arranged so that the different states of the same image pixel from the same parallax image are not adjacent to each other;

an horizontal optical separating member including a plurality of partial separating regions which extend in a horizontal direction and are arranged along a vertical direction, each partial separating region including a plurality of state selective regions which are arranged along the horizontal direction, each state selective regions including at least a first state selective region and a second state selective region that selectively transmitting an transmit incident light from the display device according to at the state of the incident light, the at least first and second state selective regions being arranged so that state selectivity alternates between at least the first

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and second state selective regions in a horizontal direction parallel with the rows of the display device; and

~~a vertical separating member projecting light from the predetermined pixel of the display device onto the predetermined position of the horizontal separating member in the vertical direction;~~

wherein the parallax images displayed on the display device are displayed at different positions of the viewing region by the optical ~~horizontal separating member and the vertical separating member.~~

2-3. (canceled)

4. (currently amended) The stereoscopic image display apparatus according to claim ~~1~~, 13,

wherein a projection magnification of the vertical separating member in the vertical direction parallel to the columns of the display device onto the ~~horizontal~~ optical separating member with respect to the display device is larger than 1.

5. (currently amended) The stereoscopic image display apparatus according to claim 1,
wherein the ~~in a case where a first and the second state-selective regions arranged in the~~
~~different partial separating regions selectively transmit light with different states, respectively,~~
~~the first and the second state-selective regions do not correspond with each other in the vertical~~
direction.

6. (previously presented) The stereoscopic image display apparatus according to claim 1,
wherein the state of the incident light is a polarization state.

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7. (withdrawn) The stereoscopic image display apparatus according to claim 1,
wherein the plurality of state selective regions have properties of selectively transmitting light with different wavelength regions.

8. (withdrawn) The stereoscopic image display apparatus according to claim 1,
wherein the plurality of state selective regions have properties of selectively transmitting light with different polarization states and wavelength regions.

9. (currently amended) The stereoscopic image display apparatus according to claim 13,
wherein the vertical separating member is a cylindrical lens array including a plurality of cylindrical lenses whose generatrix are horizontal and are arranged along the vertical direction,
~~or a mask having a plurality of slit apertures which are oblong in the horizontal direction and are arranged repeatedly in the vertical direction.~~

10. (currently amended) The stereoscopic image display apparatus according to claim 1,
wherein a first display pixel of the display device displays a first parallax image pixel of
~~the a first parallax image~~image, and at least one of a display pixel adjacent to the first display pixel in the vertical direction or and the horizontal direction displays the an image pixel from a
parallax image different from the first parallax image.

11. (currently amended) The stereoscopic image display apparatus according to claim 1,

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wherein a first display pixel of the display device displays a first parallax-image pixel of ~~the first parallax images~~image, and at least one of a pixel adjacent to the first pixel in the vertical direction, the horizontal direction ~~or~~and oblique direction displays the parallax image different from the first parallax image.

12. (withdrawn) A stereoscopic image display apparatus for displaying different parallax image on a viewing region, comprising:

a display device displaying the parallax images by different pixels; and

a horizontal separating member including a plurality of partial separating regions which extend in a horizontal direction and are arranged along a vertical direction, each partial separating region including a plurality of state-selective regions arranged along a horizontal direction,

wherein each state-selective region selectively transmits light having a part of visible wavelengths; and

wherein the parallax images displayed on the display device are displayed at different positions of the viewing region by the horizontal separating member.

13. (new) The stereoscopic image display apparatus according to claim 1, further comprising a vertical separating member projecting light from a predetermined pixel of the display device onto a predetermined position of the optical separating member in a direction parallel with the columns of the display device.

14. (new) The stereoscopic image display apparatus according to claim 13,

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wherein the vertical separating member is a mask having a plurality of slit apertures
which are oblong in the horizontal direction and are arranged repeatedly in the vertical direction.